

■ ECE/CS 4984: Wireless Networking and Mobile Systems ■
At-home Exercise 3 (E3)

Part I – Objectives and Lab Materials

Objectives:

The objectives of this lab are to:

- Help you become more familiar with C#, the .NETcf and using Windows Forms.

After completing the assignment, you should be able to:

- Impress and amaze your friends with ability to write mobile applications.

Hardware to be used in this lab assignment:

- 1 Dell Latitude C640 notebook
- 1 iPAQ 3850

Software to be used in this lab assignment:

- Microsoft Visual Studio 2k3
- Microsoft .NET Compact Framework

Part II – At-home lab assignment

The Pizza Program

1. Congratulations, you are the proud owner of a new pizzeria (pick your favorite name). Your employees are all University graduates and no good at math or remembering things. To make their life much easier, you have decided to create an iPAQ application that will allow them to take and price orders by themselves. The graduates can read (somewhat) but getting them to write correctly on the iPAQ has caused some problems. Because of this, the application must be usable with just the ability to “click” with a stylus.
2. Requirements:
 - UI:
 - Use *comboBoxes* for the pizza size and crust style
 - Use *checkBoxs* for the toppings
 - There must be headers/descriptions for each section
 - An area for the Total (either *label* or *textBox*)

Here is an example interface:



❑ Function:

- The total should be calculated by clicking a button or updated as selections are made.
- Sale's tax is included in the price, so it does not need to be added to the total.

❑ Costs:

- Size: small - \$6, medium - \$7, large - \$8
- Crust style: thin - \$0, original - \$0, sicilian - \$1
- Toppings (each): small \$0.71, medium - \$0.81, large - \$0.91
- All costs should be stored in a single location. They should be able to be changed with a minimum of effort.

Part III – Report

This report will include both in-class and take-home aspects of this lab assignment. You must turn in a report containing the following:

Part I – Pre-lab Assignment

1. Name 3 programming languages that support the full .NET framework.
2. Name *the* 2 languages that can be used for writing .NET compact framework applications. (the 2 supported out of the box).
3. Name 2 differences between C# and C++ (any differences... syntax, style, etc).
4. Name 2 similarities between C# and C++.

Part II – In-class experiments

1. Include 2 snap shots of the name space session.
2. Include a snap shot of the type conversion example.

Part II – Take-home report:

1. Include all code that you added to your Pizza application. (Any methods you added code too and classes you created).
 - o Make sure to comment the code you add.
2. Provide at least two screen captures (alt-Print screen) of the emulator running your pizza application.
3. Summarize how your application works.
4. Discuss an alternative approach to developing this application.

Part III: Conclusion

- This is the free-form portion of your report. Provide a summary of lessons learned from this lab. Express any initial thoughts on using C# and what you think of the language itself. Express any thoughts on developing mobile graphical applications. Report any problems encountered and any suggestions/comments/criticisms for this lab set.